

MAKING GRASS GROW IN THE SHADE

In the suburbs in which I live we have front yards lawn. Mine is shaped like a little trapezium, the length of the longest side being about twelve feet. All the other houses in the circle have either squares or rectangles for lawns. Mine, besides being so irregular in shape, faces the north and is shaded summer and winter by the neighboring houses. Moreover, it has as hard a center as the shade is quite dense and whose leaves, thick and heavy, begin to fall early in the summer and continue falling until the winter sets in.

The problem with me for fifteen years has been to make my lawn as beautiful and green as the others. The fourteen others, in spring and summer, set forth delectable squares of grass, forming good turf, green and appetizing to the eye and spirit. Mine, except for a few days in the spring, was yellow and unattractive, and the grass which appeared for a short time was soon invisible.

For fifteen years I struggled with it in the conventional ways, trying to raise grass and reaping only a whirlwind of dry and only Lombardy leaves. I bought all sorts of fertilizers: I sowed all sorts of grass seed, seed warranted to grow even in shade. I watered and I refrained from watering. I was Paul and Apollos, over and over. I was instant in season and out of season, but the Lord would not give the increase.

Then two years ago, I grew desperate. "I shall have a green lawn," I said. "It shall be the greenest and most beautiful of all."

So one spring morning (it was the wrong time of the year, of course, it ought to have been in the fall, but it was in the spring that the impulse came) I went to the flower stores near the market armed with a huge basket. I brought that basket home filled with a half dozen English ivy shoots and as many myrtle roots, for which I paid about \$2. Then I had two tiny loc trees for which I paid 25 cents apiece and one larger one for which I paid 50 cents. On another occasion I had bought an arbutus vine, about a foot high, for 75 cents.

I proceeded to arrange my lawn. In the front I placed the arbutus vine. In the longer end I placed the larger box, when an occasional ray of sun might touch it. On the shorter side I placed the two tiny loc trees. Around the Lombardy I set a wreath of convolvulus and myrtle plants which some one had given me. Then, irregularly here and there, I placed my ivy and myrtle. Between these I piled heaps of stones, which the boys of the neighborhood brought to me in their toy wagons full of field stones.

We were fortunate in having here a rare and exceedingly interesting geological formation. It is marine, the upper crust of the lower Silurian. This is the period when the great continents of America emerged from the sea. It is the time when the first thought of the vertebrate dawned on the spirit of life and our stones are a conglomerate of most interesting fossils, the trilobites being the aristocrats with their threefold coat of armor.

This particular formation exists only in a few rods of New York and here in Cincinnati. I was told that my lawn was arranged and I waited for results. The ivy and myrtle were delighted and made friends at once with the old Lombardy and the fossils in the stones. The ivy seemed, however, to think it owned the spot and was determined to have its way. The myrtle indeed seemed drooping and weak. But I gave them all plenty of water, many loads of sand and constant spading and let them fight the battle of life in other ways as they would.

The first summer people looked and marveled and some admired and said, "You are going to have something beautiful there," and some jeered and said, "What are you trying to do, raise rocks?" and some conventional ones pursed up their lips and said, "You are spoiling the looks of the circle. I don't like vines." But I went on. Nothing could make the place look worse than it had in the past and perhaps if I played the part of Apollos well the Lord would do his part. He did.

The second summer my lawn was a thing of beauty. One connoisseur said it gave an air of distinction to the house and the circle and almost every one stopped to admire.

Of course there were trespassers. Some morning glories thought the place inviting and came blooming to live with the ivy and myrtle. Even a hollyhock seed found what it thought a good lodging place between my two little loc trees and last summer its variegated leaves were so beautiful in contrast with the dark ivy that the Lord of the Manor would not let me pull it up. So we live in hopes of a stalk of blooms from it this year.

When the poplar leaves fell they were easily spaded in and their decay helped the sandy soil. The latter part of the summer I had no work to do. It took care of itself and the ivy had started to clothe the Lombardy in a cloak of green.

There was no necessity to play Petey Trotwood, because the ring-leader of the boys was my first-born, and when the impulse seized the children to walk on the lawn they delighted in jumping from one heap of stones to another, or if occasionally their little feet touched the ivy leaves and myrtle, no harm was done.

In the spring the spot was a glory

with the purple flowers of the violet and myrtle. By the time they had gone the ivy had sent out new shoots and the place was a study in different tints of green.

When the day was warm and the sun was high there came to me delicious, pungent perfume from the ivy and box and arbutus vine which carried me to summers in Maine at Kennebunk, where the pine woods hobnob with the sea.

I had named each of my trees. The arbutus was of course the Tree of Life. The larger box was the Tree of Knowledge of Good and Evil; the old Lombardy was Yggdrasil, while the two tiny box trees were sometimes Babel and Philemon and sometimes the two Dromedaries.

After I had tended the lawn in the evening I turned to sit and dream over it. The setting sun shone and the various shades of dark green were touched with a strange romance. One tiny ivy shoot given by a friend had come from Kenilworth Castle and it was that I wanted to see all the glory of that magnificent ruin in my ivy climbing over the gray stones.

There, on my little trapezium, I had the whole history of our continent and race in science, literature and art. I felt in looking at it that I could almost understand what God and man had thought and that for fifteen years I had nothing but shade and sorrow where now was a paradise of knowledge and power in beauty and ease!

C. G. M. Ohio.

INSECT CONGRESS AGAINST PREPAREDNESS.

In a bush and weed covered ravine near an unsprayed, uncared and neglected orchard the Annual Field and Orchard Insect Congress of a certain State was held recently.

The following officers were elected for the coming year: President, Hessian Fly; Vice-president, San Jose Scale; Secretary-treasurer, Church Bug; Other delegates were: Army Worm, Corn Root Louse, White Grub, White Worm, Cutworm, Corn Ear Worm, Coddling Moth, Curculio, Tree Borer and Bark Beetle. At the close of the meeting resolutions were adopted declaring that field and orchard insects are capable of doing \$15,000,000 damage to a State's crops this year. Each delegate promised to return to his own home and do his work of cutting down the farmers' profits.

It was admitted by the committee on preparedness, headed by Hessian Fly, that if the farmers of the State made use of their knowledge of the habits of the pests the insects could have little effect on the orchards and fields.

The committee recommended that destructive operations be carried on in places where farmers had become discouraged because their sprays made of strong lime-sulphur and mislabeled oil and kerosene and which work of no effect. San Jose Scale, however, admitted that his tribe could accomplish nothing where farmers used sprays at their proper strength and only their work thoroughly.

Farmers who hold to the theory that insects are always bad insects, they will always be here, there is no use trying to fight them, just depend upon the weather and the Lord." were especially commended by the insect convention. The bugs admit that with the farmer who takes his work seriously and who uses the insecticides with their chances for destruction of crops is very small.—*Santa Fe Talk.*

Bulls that have finished flowering in pots should be kept watered and planted in a sheltered position in the garden.

Continue planting peas, lettuce, radishes and onions for a succession. A part of peas is sufficient for a row fifty feet long. Sow an inch and a half or two inches deep, in rows five feet apart.

Layers of clean straw between the rows of strawberries will insure clean fruit.

Gooseberries dusted with lime early in the morning while the foliage is wet with dew will check the work of caterpillars.

Sweet peas require plenty of water.

Roses should be mulched with manure as soon as they are pruned. Mulch now if this has not been done before. Cover the top soil over an area sufficient to cover the roots but keep the mulch an inch or so away from the stems of the plants. The object is to keep the soil moist and the mulch may be soaked with water or liquid manure frequently.

Earth up potatoes early.

Pot grown roses can be planted late and require but little pruning. The plants should be set without disturbing the roots, planting the ball of earth just as it is turned out of the pot. Make the holes two feet deep and three feet wide, filled in with good rich soil.

Hollyhocks are gross feeders and to grow them to perfection the soil must be deeply dug and well fertilized. In dry weather give liberal soakings of water and liquid manure.

When hollyhocks do not grow well and produce small flowers it is a good indication that they are in poor, shallow soil that becomes dry.

The best results are to be had from seedling plants, which can be purchased now.

Strong rooted violet runners should be planted in rich soil to be covered in the late autumn with a cold frame for flowering next winter.

Violets, Solomon's seal, primroses, lilacs of the valley, spiraea, pansies, arabis, hypericums and ferns will thrive in shady places.

In applying liquid fertilizer apply it to the roots of the plants. Avoid as much as possible wetting the foliage.

Do not use solutions of insecticides made stronger than advised by the manufacturers.

Clear up the rubbish from the garden, including weeds, and make a bonfire.

Hellebore must be used freely to destroy currant worms. It can be applied dry or as a spray. For spraying one pound is sufficient for twenty gallons of water. Hellebore quickly loses

its poisonous properties and therefore must be freshly mixed and applied frequently.

Caroline Testout, Gen. McArthur, Prince de Bulgarie, Richmond, Mine. Ravary, are fine beautiful tea roses. Climbing Caroline Testout, Climbing Richmond and climbing White Mamon Cochet are exceptionally good climbers.

Do not use poultry manure in a fresh condition. Mix it with an equal amount of sand or soil and apply lightly.

Soil that is wanting in humus will heavily badly during winter, and when leaves it is a sure sign that the soil requires humus, deep tillage and lime.

Heaving is the action of the frost, repeated freezing and thawing throwing plants, such as strawberries, for example, almost completely out of the ground.

Soil that is supplied with plenty of humus and has been tilled deeply lets the water down under the surface quickly, preventing washing and serious damage from the action of frost.

Farm land offered at \$50 an acre may seem cheap, but as a matter of fact land in the same locality at \$200 an acre might be the most economical to buy. Land that has received shade, even though it is lacking in humus, even though it can be bought for \$50 an acre, will cost \$100 or more an acre besides the time required to get it rich in humus, free from acidity, deeply cultivated, mellow and cleared of stones.

Reports and telegrams received in the bureau of crop estimates, Department of Agriculture, indicate that the total production of onions in Texas will be about 4,650 carloads of 400 bushels each.

TO INOCULATE SEED.

Coating the seed of legumes with inoculated soil before planting is a simple method of insuring soil inoculation at slight cost. County agents in Illinois have found ordinary furniture glue effective in holding particles of inoculated soil to the seeds. This method gives each individual seed some of the particles of inoculated soil, which it carries with it as it is planted. The scheme requires but a small amount of inoculated soil and costs but a few cents an acre. The method is described in Bulletin 764, U. S. Department of Agriculture.

Dissolve two handfuls of furniture glue in every gallon of boiling water and allow the solution to cool. Put the seed in a wash tub and then sprinkle enough of the solution on the seed to moisten but not to wet it. If quart of solution is sufficient and stir the mixture thoroughly until all the seed are moistened.

Secure the inoculated soil from a place where the same kind of plants as the seed are growing, making sure that the roots have a vigorous development of nodules. Dry the soil in the shade, preferably in the barn or basement, and pulverize it thoroughly into a dust. Scatter the dust over the moistened seed, using from one-half to one gallon of dust for each bushel of seed, mixing thoroughly until the seed no longer stick together. The seed are then ready to sow.

ROCKY FORD MELONS.

Muskmelons of the Rocky Ford type, grown in localities other than Rocky Ford, Colo., may be labeled "Rocky Ford" provided the name of the State or Territory where the melons are produced is stated on the principal label, according to a recent decision of the bureau of chemistry. This decision was reached for the reason that the term "Rocky Ford" as applied to muskmelons has come to mean a particular type of muskmelon grown in various localities of the United States.

The fourth summer application is made two to three weeks after the third application. Bordeaux arsenate of lead should be used in hot weather, lime sulphur arsenate of lead in cool weather.

STRAWBERRY ACREAGE.

The acreage in strawberries on May 1, in the nineteen States leading in strawberry production, was estimated at 111,543 in 1916, as compared with 92,355 acres in 1915, an increase of 18,188 acres, or 19.7 per cent.

ANIMAL TREE GUARDS.

An enterprising manufacturer offers an effective tree guard that keeps cats and squirrels and other animals out of trees, protecting the birds' nests. Where these tree guards are used the birds will be afforded peace and comfort and will show their appreciation by appearing in increasing numbers. The guards are so constructed as to expand with the growth of the tree and can therefore be used with perfect safety.

DISEASES OF CULTIVATED PLANTS AND TREES.

Diseases of plants do much injury from a lack of application of reliable curative methods. The most important of remediable and preventive measures, however, is cleanliness. Spraying alone may be overdone, whereas when used in combination with other measures the success may be greater and the cost less.

It is estimated that in the United States the annual loss from out smut is more than \$5,000,000; from loose smut of wheat, \$3,000,000; from bunt or stinking smut of wheat more than \$11,000,000. Loose smut annually diminishes the value of barley \$2,000,000 and the combined effect of the various diseases attacking the potato diminishes the yield of this crop over \$30,000,000 annually.

Diseases of cultivated plants are of such vital importance to horticulturists and agriculturists that a work on the subject by an authority will be welcomed. The Macmillan Company of New York has just published "Diseases of Cultivated Plants and Trees," by George Mueser and the Royal Horticultural Gardens, Kew, a very valuable work for gardeners, florists, fruit growers and up to date farmers.

"The Principles of Plant Culture," by the late Emmett S. Goff, has been revised and enlarged by Prof. J. A. Moore and L. R. Jones of the University of Wisconsin. Published by the Macmillan Company of New York. This work is intended especially for students who have had little or no previous instruction in botany and it will be found interesting by the general reader who would learn more of

the principles underlying the culture of plants. This book contains much information of value to the amateur gardener, told in an interesting manner.

SEEDS OF DISCORD.

Our first consignment of new Congressional garden seed has arrived. The package bears the signature of Jeff McLemore, one of the Congressmen from the State at large. We have examined the seeds and find all of them to be of the 1916 model, with the latest self-sprouting attachments, and in the right soil and season they would doubtless come to a full and beautiful fruition. But they are watermelon and turnip seeds. Here, my countrymen, are some of the evils of electing incompetent Congressmen. Any man competent to sit in our national law making body knows that it's too late to plant turnips and that watermelons grown on black land are n. g. Yet here is Mr. McLemore drawing \$3,500 a year and mileage for serving the people in Congress, with no knowledge of when or where to plant Government seeds. The people had an opportunity to select as their Congressman at large a man who knows all about garden seeds, one who perhaps would have sent his constituents seeds that would have yielded abundantly without work, but they selected in his stead a crusty bachelor, who knows as little about garden seeds as he knows about babies.—*Hourly Grace (Tex) Signal.*

"I think our Congressman is taking long chances," "How so?" "He is actually making a tour of the district to inquire how the free seeds he distributed turned out!"—*Louisville Courier-Journal.*

As a result of the field experiments in spraying apple orchards the University of Illinois agriculture experiment station in a bulletin recently issued recommends that the first summer application be made after the buds have opened, as soon as the individual flower buds are apart, but before the flower buds themselves open. Spraying may be continued until the petals have commenced to separate, but should be discontinued as soon as the summer and petals of the flowers are exposed. This spray is for the apple scale and to kill the various leaf-eating insects which appear early in the season, including both moth, tent caterpillar and canker worm.

Bordeaux mixture, consisting of eight pounds copper sulphate, eight pounds freshly slaked lime and two gallons of water, with four pounds arsenate of lead added as an insecticide, is the best spray for use at this time. The copper is mixed in half the quantity of water and the lime in half the quantity. The mixtures are then poured together simultaneously through a sieve.

SPRAYING APPLES.

In a recent brief survey of apple prices in several large markets the following facts were evidenced. Present wholesale prices on barreled stock are very reasonable. In fact, in many places, wholesale dealers are selling below cost when storage charges are considered. Investigations made on the same day in New York, Chicago, Boston, Philadelphia, Pittsburgh and Buffalo showed that No. 1 cold storage Baldwin and greenings were ranging from \$2.50 to \$3.00 a barrel, while No. 2s were bringing from \$1.75 to \$2.50 in practically every market. Last fall buyers in New York State paid the growers on an average of \$3 for No. 1 Baldwins and greenings, and \$2.25 for No. 2s, a. b. shipping. Adding to these prices a fair average seasonal storage charge of 45 cents a barrel, and from 25 to 50 cents a barrel for freight and handling, one can see readily that dealers apparently are not profiting at present on many of their apple sales.

The inquiry into retail prices on apples, which was made at the same time covering the same grades and varieties indicates that while they are not unduly high except in a very few instances, still they do not seem to have decreased proportionately with wholesale quotations.

The wholesale apple dealers are in daily touch with the market and are able to follow their example and carry out an adequate advertising campaign in the press and in all stores handling apples, the results should be very helpful to all concerned—grower, dealer and consumer.

Modestly, however, as experiments proceeded, the floods were enlarged, and the average floor space for each flock was reduced. At the present time laying hens are kept in flocks of from 100 to 1,000. On the largest poultry farms, where the aim is mostly for the production of eggs, the number of birds is usually from 250 to 500 in each laying flock.

This large flock principle has been found to work well in the hands of experienced poultrymen. The danger from disease is much greater where many birds are mixed together. But the man who knows the vital importance of cleanliness, however, and the right kind of a balanced ration every day, year after year will not be running great risks. The labor saving factor here is immense. For example, I visited one big plant where 100,000 eggs were being laid in a house. One man was attending to the feeding of seven of these flocks, or a total of 3,500 fowls. Had they been divided into pens of fifteen fowls each, according to the old method, he would have had 233 pens to visit at each feeding.

Thus it may be seen that the wages of several men are saved by this discovery of the large laying flock principle. Besides, the space required for each fowl on the average is not more than one-third of what would be required under the old system of from twelve to fifteen hens in a pen. It is a saving of space and of eggs will be produced under the extensive method of operation than by the intensive system. But the loss sustained in this way will be small in comparison with the gain in the saving of labor and space.

The great cities are constantly increasing their population. The large towns are rapidly growing into cities. The consumers are demanding more and more rapidly than the producer. The rush from the rural districts to the city is still under full drive—so the experts tell us. The millions of eggs laid in New York, Philadelphia, Chicago and a thousand other centers of population must be fed, and no article of diet is more attractive or necessary than the product of the poultry yard.

The chicken dinner will never be superseded so long as there is a supply of eggs. However, there is a luxury in an egg. It is at the same time a necessity. Where is the housewife that will cook without eggs? It would be interesting to make an exhibit of the endless ways in which the product of the poultry yard are used in the thoroughly down to date American kitchen. Winter

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APPLES STILL PLENTIFUL.

The storages on April 1 held more than a peck for every one of Uncle Sam's Twenty and a Quarter Million Families.

The condition of the apple market is a matter of grave concern to both growers and dealers all over the country. The report of cold storage holdings of apples on April 1, recently issued by the United States Department of Agriculture, gives figures which probably will cause all dealers interested in the crop to speed up the movement of this fruit in a most vigorous way. This report shows that on the first of April there were approximately 44 per cent. more apples in cold storage than at the same date one year ago, and the season of 1914-15 was but unusually heavy production. Figures from 427 storages indicate that nearly 33 per cent. of the apples which were placed in cold storage by December 1, 1915, were still there on April 1 waiting to be consumed.

Several reasons for the present conditions. The fact that the past season's commercial crop was considerably smaller than that of a year ago led to expectation on the part of growers and dealers last fall that the prospective market would be much stronger than it actually proved the case. As a result, much stock changed hands at values in excess of those which marketing conditions since show were warranted. This caused higher opening prices than in 1914 and naturally slowed up the movement. Neither growers nor dealers who held the fruit seemed inclined to push sales with the vigor that they had an enormous crop to market, and the result was that large quantities of apples were put into cold storage with the hope that the winter and spring markets would strengthen sufficiently to allow a margin of profit.

In spite of the fact that last fall's commercial crop was estimated at over ten million barrels short of the previous year, the market in cold storage exceeded that stored in 1914 by about 13.5 per cent. A second explanation is found in the fact that exports of apples from the ports of the United States alone up to March 1, 1916, were 60,556 barrels less than for a similar period last season, and April reports are expected to show a much larger difference.

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This large flock principle has been found to work well in the hands of experienced poultrymen. The danger from disease is much greater where many birds are mixed together. But the man who knows the vital importance of cleanliness, however, and the right kind of a balanced ration every day, year after year will not be running great risks. The labor saving factor here is immense. For example, I visited one big plant where 100,000 eggs were being laid in a house. One man was attending to the feeding of seven of these flocks, or a total of 3,500 fowls. Had they been divided into pens of fifteen fowls each, according to the old method, he would have had 233 pens to visit at each feeding.

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POULTRY DIRECTORY

POULTRYMEN PROFIT ON BIG SCALP NOW

Modern Methods Make It Possible to Conduct Large Farms.

EGGS ALWAYS IN DEMAND

By G. R. SMITH.

Improved processes of incubation prove that the poultry industry is moving forward at an amazing pace in its methods of operation—like every other occupation—from making pins to carrying on a gigantic steel works.

The difficulty of getting the eggs hatched in sufficient numbers has made large operations practically impossible until quite recently. The miracle working machine has come to the front here as everywhere, and the work is made easy.

By the use of modern incubating machines thousands of chicks can now be hatched at once, where a few years ago only hundreds could be hatched.

One company advertises machines with capacities from 1,200 to 20,000. The manipulation of them is exceedingly simple. Hot water heat is used. A little coal fire at one end of the long incubator heats the water for the hatching of the tens of thousands of eggs at one sitting.

In the process of hatching the eggs must be turned every day. The machinery has been so ingeniously adjusted that 10,000 eggs can be turned in thirty seconds. Such a device saves an enormous amount of labor over the hand turning method. One man can in this way take care of the hatching of a vast number of eggs.

Fifteen eggs are as many as a large hen could cover, even in warm weather. It is plain, therefore, that a giant hatching machine with a capacity of 10,000 is equal to more than 650 hens all sitting at one time. This is one of the reasons why the poultry industry is taking rank with the dairy business, fruit culture or even with general farming as a possible source of large profits. On one poultry farm I saw an incubator with a total output of 3,000 baby chicks every three weeks.

Hatching is not the only trick to be turned. Sooner or later the eggs and tens of thousands are turned out of the shells—what then?

A short time ago I saw a 4,500 newly hatched chicks taken out of a 6,000 capacity incubator. They ran like a herd of fluffy tender things between the feet.

The care of the young chicks has been a serious problem in the getting of them. The brooder stove makes this task comparatively easy.